

Attorney Docket No. P70693US0
Application No. 10/541,619

Remarks/Arguments:

Claims 7-16 and 20-26 are pending.

Claims 1-6 and 17-19 are cancelled without prejudice or disclaimer.

By the instant amendment the term "an adhesive" was removed from claim 13 and the term "a hotmelt one-pack-type curing paste material" was removed from claim 15. New claims 20-26 are directed to the "product" made by present method claims 7-13, respectively.

The rejection of claims 17-19 under 35 USC §112, first paragraph, is rendered moot by cancellation of the rejected claims, hereby. Withdrawal of the rejection appears to be in order. Claims 7-19 were rejected under 35 USC 103 as being allegedly obvious over Okuda (JP 06 198152) and further in view of Cobbs (US4778631). Reconsideration is requested.

The presently claimed invention provides a one-pack-type curing paste material, a method of mechanically mixing and dispersing a one-pack-type curing paste material together with a low-pressure gas, and a process of performing the claimed method using a mechanical foaming apparatus. The presently claimed invention also provides a foamed one-pack type curing paste material produced by the presently claimed method.

The PTO admits that Okuda does not disclose the composition or properties of the high-viscosity paste material. The PTO alleges, however, that it would have been obvious to one of ordinary skill in the art to use the hot-melt adhesive of Cobbs in the Okuda method as the "high-viscosity material" used, because Okuda (column 1 lines 43-47) teaches or suggests that the "high viscosity material"—to be used in its "foaming" method—can be the hot-melt adhesive described

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in Cobbs (see page 4, lines 2-9, of the Office Action). In view of the allegation, the term "an adhesive" claim 13 and the term "a hotmelt one-pack-type curing pastee material" in claim 15 are removed, therefrom, as mentioned above.

The PTO admits that Okuda does not teach the recited "apparent viscosity" and "shear rate" properties of the "paste material" limitation of the rejected claims. The PTO also admits that Cobbs is silent about the presently recited "shear rate" and "apparent viscosity." But, the PTO maintains (page 4, lines 12-19, of the Office Action) that Cobbs discloses using a high viscosity hot melt thermoplastic adhesive having a specified range of viscosity; and the PTO alleges that the effect of shear rate on viscosity is a known relationship for shear thinning fluids. Thus according to the PTO, it would have been obvious to one of ordinary skill in the art through "routine experimentation" to alter the shear rate in order to achieve the desired high viscosities specified by Okuda (page 4, line 19 to page 5 line 2, of the Office Action).

Cobbs (column 3, lines 14-16) does describe hot melt thermoplastic adhesives having "high viscosities" in the range of "50,000 to above 1,000,000 cps"; however, such a range neither teaches nor suggests the "paste material having [the] viscosity characteristics" recited in the present claims, since no shear rate is described by Cobbs. Viscosity varies by shear rate depending on the material, as shown in the attached figure.

In the (attached) figure the solid line representing "Example A2" data and the dotted line representing "Example A" data are derived from the subject application, i.e., Figure 1 and the Example (page 31 of the specification). The other solid line (in the attached figure) represents

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data obtained using commercially available "PENGUIN SEAL 580 SUPER." The data in each case are based on two points—at shear rates of 0.43 (1/s) and 783 (1/s)—and it is apparent that each line can be drawn from such data.

The viscosity range specified in Cobbs does not necessarily correspond to the viscosity characteristics defined in the presently claimed invention. Thus, even by using the material disclosed in Cobbs to produce an expandable material in the mechanical foaming apparatus according Okuda, there would not necessarily be obtained a foaming product having dense uniform closed-cells according to the presently claimed invention.

"In relying on a theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (*emphasis in original*). Before "the burden shifts," the examiner has "the initial burden of establishing a prima facie basis for the alleged inherency." 17 USPQ2d at 1463-64. To base a rejection on what is allegedly inherent in the reference teachings,

the examiner must . . . reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the applied prior art.

17 USPQ2d at 1464 (*emphasis in original*). An argument by the PTO is "not prior art." *In re Rijckaert*, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). A "retrospective view of inherency is not a substitute for some teaching or suggestion which supports the selection and use of the various

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elements in the particular claimed combination." *In re Newell*, 13 USPQ2d 1248, 1250 (Fed. Cir. 1989).

That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown.

In re Spormann, 363 F.2d 444, 448, 150 USPQ 449, 452 (CCPA 1966).

According to the presently claimed invention, a piston pump is used to mix a paste material with a gas and discharge the gas-mixed material. In contrast, Cobbs uses a disk-type apparatus, to both conduct and discharge a mixture. Accordingly, the apparatus/mechanism of Cobbs is completely different from that of the presently claimed invention; a fact which the PTO erroneously fails to consider in combining the teachings of Okuda and Cobbs in order to reject the claims. "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine*, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988).

It is impermissible within the framework of §103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.

In re Hedges, 228 USPQ 685, 687 (Fed. Cir. 1986). Teachings of the prior art must be taken as a whole in an obviousness analysis. *Ryko Manufacturing Co. v. Nu-Star, Inc.*, 21 USPQ2d 1053 (Fed. Cir. 1991). In a §103(a) analysis the complete teachings of each cited reference must be taken into consideration, for a "full appreciation of what such reference fairly suggests to one of ordinary skill in the art." *Hedges*, 228 USPQ at 687,

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The fact that all elements of a claimed invention are known does not, by itself, make the combination obvious. *Ex parte Clapp*, 227 USPQ 972 (BPA&I 1985). It must be remembered that

invention itself is the process of combining prior art in a nonobvious manner [citations, omitted]. Therefore, even when the level of skill is high, the . . . [USPTO] must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination.

In re Rouffet, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998).

The only way to arrive at the presently claimed invention, based on the teachings of Okuda and Cobbs, is to use the teachings of the presently claimed invention as a blueprint, which of course involves the improper use of hindsight.

[I]t is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention.

Uniroyal, Inc. v. Rudkin-Wiley Corp., 5 USPQ2d 1434, 1438 (Fed. Cir. 1988).

The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because *it may doubt* that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis.

In re Warner, 154 USPQ 173, 178 (CCPA 1967) (*emphasis original*). An argument by the PTO is "not prior art." *Rijckaert*, 28 USPQ2d at, 1957. "It is facts which must support the legal conclusion of obviousness." *Ex parte Crissy*, 201 USPQ 689, 695 (POBdApp 1976).

With all due respect, the PTO incorrectly applies an obvious-to-experiment standard—under the guise of "routine experimentation" (page 4, line 19 to page 5 line 2, of the Office

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Action)—which has been repeatedly rejected by the courts. As held in the recent decision *Procter & Gamble Co. v. Teva Pharmaceuticals USA, Inc.*, 90 USPQ2d 1947, 1951 (Fed. Cir. 2009) (emphasis added):

Cases following *KSR* have considered whether a given molecular modification would have been carried out as part of routine testing. See, e.g., *Takeda*, 492 F.3d at 1360 (discussing the district court's finding that a modification was not known to be beneficial and was not considered "routine"). . . . In . . . cases . . . [where] researchers can only "vary all parameters or try each of numerous possible choices until one possibly arrive[s] at a successful result, where the prior art [gives] either no indication of which parameters [are] critical or no direction as to which of many possible choices is likely to be successful," [citation omitted] "courts should not succumb to hindsight claims of obviousness." [citation omitted] Similarly, patents are not barred just because it was obvious "to explore a new technology or general approach that seemed to be a promising field of experimentation, where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it." [citation omitted].

In view of the foregoing remarks, the rejection of claims 7-19 under §103(a), based on the combined teachings of Okuda and Cobbs, is overcome. Withdrawal of the rejection appears to be in order.

The §103(a) rejection as applied against claims 15 and 16 also fails, since Cobbs necessarily requires a high pressure gas: Examples 1-5 of Cobbs (columns 12-15) require a high-pressure gas of at least 250 psi (Examples 4 and 5), which can be converted to at least 17.6 kgf/cm² (1 kgf = 14.2 psi). In contrast, the presently claimed invention requires a specific, low-pressure gas of "0.1-5 kgf/cm²," which is neither taught nor suggested in the cited references.

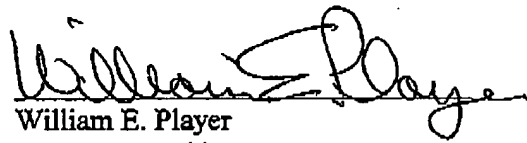
In view of the foregoing remarks, the under §103(a) rejection as applied against claims 15 and 16 is overcome, independently of the reasons set forth above for overcoming the rejection as

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applied against claims 7-19. Withdrawal of the rejection as applied against claims 15 and 16 further appears to be in order.

Favorable action is requested.

Respectfully submitted,



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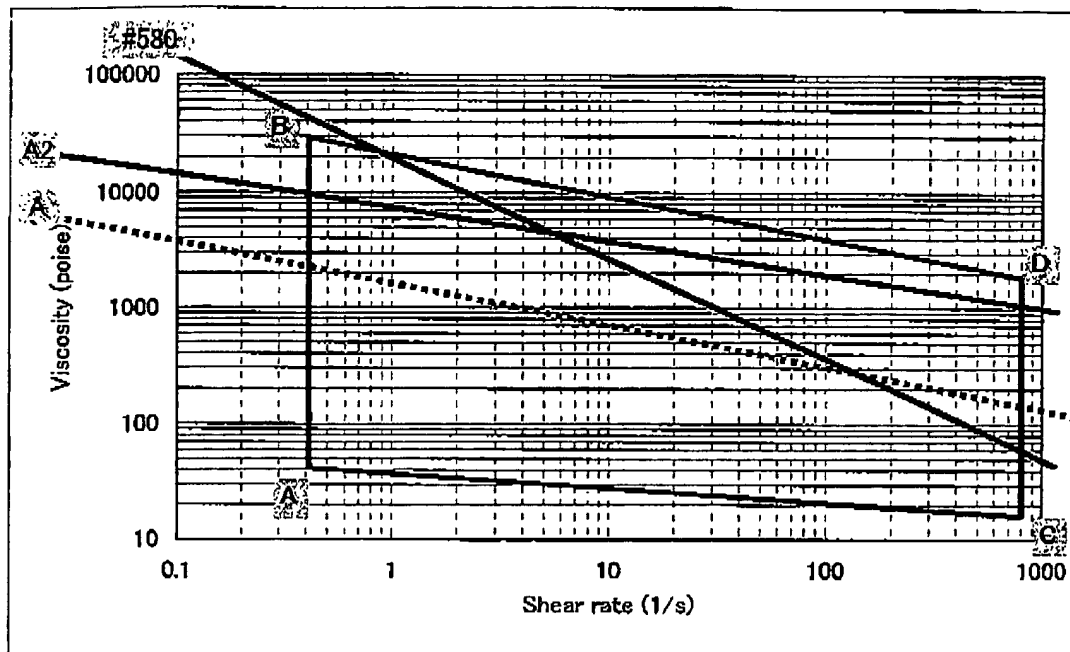


Figure: Relationship between shear rate and apparent viscosity

A: Example A

A2: Example A2

#580: PENGUIN SEAL 580 SUPER, produced by SUNSTER GIKEN KABUSHIKI KAISHA*

* One-pack type moisture curing polyurethane adhesive

Use: Adhesive for automotive window glass

Viscosity: 39,000 poise at 0.43 (1/s)

70 poise at 783 (1/s)

ATTACHMENT